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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,537	10/06/2003	Noo Li Jeon	UC-P0001	2536

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EXAMINER

BEISNER, WILLIAM H

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,537

Applicant(s)

JEON ET AL.

Examiner

William H. Beisner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/2/05 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 31 appears to recited that each of the first and second microfluidic regions include at least two reservoirs that are in fluid communication. Applicants' response filed 9/2/05 fails to point out where support is provided for these new claim limitations. The Examiner was enable to find support in the lengthy specification and/or drawings for these claim limitations.

Claim Rejections - 35 USC § 102

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kricka et al.(US 5,744,366).

With respect to claim 17, the reference of Kricka et al. discloses a multi-compartment microfluidic device that includes a micropatterned substrate (14) coupled with an optically transparent housing (12). The optically transparent housing comprising a first microfluidic region (22) having a first entry reservoir for accepting a first volume of fluid and a second microfluidic region (32) having a second entry reservoir for accepting a second volume of fluid that is less than the first volume of fluid (See Figure 14). The device includes a barrier region including a microgroove (20) that couples the first region with the second region (See Figure 14). The disclosed microgroove inherently has a width and height that enables the second volume of fluid to be fluidically isolated from the first volume of fluid since the dimensions of the disclosed microgroove (20) are within the dimensions required of the instant invention (See column 8, lines 49-61).

With respect to claims 18 and 32, the first and second regions are disposed parallel to one another and coupled with the barrier region (20) (See Figure 14).

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With respect to claim 19, since the structure of the device of Kricka et al. and that of the instant claims is the same, a hydrostatic pressure would inherently be provided as set forth in claim 19.

With respect to claim 20, plural microgrooves (20) can extend between the first and second regions (See Figures 6 and 15).

With respect to claims 21, 36 and 37, the barrier region (20) would be longer than 50 microns or 400 microns (See column 8, line 49, to column 9, line 8).

With respect to claims 22 and 38, the reference discloses that the microgrooves can be less than 10 microns in height (See column 8, lines 49-61).

With respect to claims 23-30 and 32-35, the device of Kricka et al. is structurally capable of supporting a cell are recited in claims 23-30 and 32-35. Note these claims do not positively recite the cell as part of the claimed device and statements of intended use carry no patentable weight in apparatus-type claims.

With respect to claim 31, the reference discloses entry openings or reservoirs in the top of the transparent housing (12) for adding volumes of fluid to the device wherein the fluid flows from the inlet to the chamber or region (See Figure 1).

6. Claims 17-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kricka et al.(US 5,296,375).

With respect to claim 17, the reference of Kricka et al. discloses a multi-compartment microfluidic device that includes a micropatterned substrate (14) coupled with an optically transparent housing (12). The optically transparent housing comprising a first microfluidic

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region (20A) having a first entry reservoir for accepting a first volume of fluid and a second microfluidic region (20B) having a second entry reservoir for accepting a second volume of fluid that is less than the first volume of fluid (See Figures 13-15). The device includes a barrier region including a microgroove (24 or 40) that couples the first region with the second region (See Figures 13-15). The disclosed microgroove inherently has a width and height that enables the second volume of fluid to be fluidically isolated from the first volume of fluid since the dimensions of the disclosed microgroove (24 or 40) are within the dimensions required of the instant invention (See column 6, lines 45-61 and column 9, lines 31-49).

With respect to claims 18 and 32, the first and second regions are disposed parallel to one another and coupled with the barrier region (24) (See Figures 13-15).

With respect to claim 19, since the structure of the device of Kricka et al. and that of the instant claims is the same, a hydrostatic pressure would inherently be provided as set forth in claim 19 when two different volumes of liquid are provided on either side of the barrier region.

With respect to claim 20, plural microgrooves (24 or 40) can extend between the first and second regions (See Figures 13-15).

With respect to claim 21, the microgroove or barrier region is greater than 50 microns (See column 6, lines 47-50)

With respect to claims 22 and 38, the reference discloses that the microgrooves can be less than 10 microns in height (See column 6, lines 45-61 and column 9, lines 31-49).

With respect to claims 23-30 and 32-35, the device of Kricka et al. is structurally capable of supporting a cell are recited in claims 23-30 and 32-35. Note these claims do not positively

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recite the cell as part of the claimed device and statements of intended use carry no patentable weight in apparatus-type claims.

With respect to claim 31, the reference discloses reservoirs (16A and 16B) in fluid communication with regions (20A and 20B).

Response to Arguments

7. Applicant's arguments with respect to claims 17-38 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicants' comments with respect to the difference between the instant claims and the prior art of record the Examiner takes the following positions:

i) The structure of the instantly claimed device and that of the prior art are the same. As disclosed in the instant specification (See paragraphs [0037]-[0038]), the structure of the instant invention includes two chambers or compartments connected by a groove with dimensions in a micron range. The prior art references disclose a structure that includes two chambers or compartments connected by a groove with dimensions in a micron range. In the absence of further positively recited structure, the structure disclosed by the prior art references is the same as that instantly claimed.

ii) In response to applicant's argument that the prior art references are used to mix fluids rather than separate fluids into distinct compartments, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn

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to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In this case, if the structure of the device of prior art references as discussed above were filled with a first volume of fluid and a second volume of fluid less than the first, the same hydrostatic pressure would result. As disclosed in the instant specification (See paragraph [0051]), the hydrostatic pressure is generated using a device that is structurally the same as that of the prior art references.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Beisner
Primary Examiner
Art Unit 1744

WHB